This listing of claims replaces all prior versions, and listings of claims in the instant application:

Listing of Claims:

1. (Currently amended) A method comprising:

adding direction to interference edges of a register interference graph, wherein each interference edge extends between two nodes of said register interference graph, said adding direction comprising:

for each node of each interference edge, determining whether a variable associated with said node was live when an other variable associated with the other node of said two nodes was defined or used;

wherein upon a determination that said variable associated with said node was live when said other variable associated with said other node was defined or used, said first node is a primary node; and

defining an interference edge adjacent a primary node as a pass edge;

defining a pass degree of each node as the number of pass edges of said node; and

choosing a node of said register interference graph to spill based upon [[a]] said pass degree of said node.

2. (Original) The method of Claim 1 further comprising building said register interference graph.

3. (Original) The method of Claim 1 wherein said register interference graph comprises:

a first node;

a second node; and

an interference edge between said first node and said second node, said first node being a primary node.

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4. (Original) The method of Claim 3 wherein said second node is a secondary node.

5. (Original) The method of Claim 4 wherein said interference edge consists of a uni-directional interference edge.

6. (Original) The method of Claim 4 wherein an end of said interference edge adjacent said first node comprises a pass edge and wherein an end of said interference edge adjacent said second node comprises a non-pass edge.

7. (Original) The method of Claim 3 wherein said second node is a primary node.

8. (Original) The method of Claim 7 wherein said interference edge consists of a bi-directional interference edge.

9. (Original) The method of Claim 7 wherein an end of said interference edge adjacent said first node comprises a pass edge and wherein an end of said interference edge adjacent said second node comprises a pass edge.

10. (Original) The method of Claim 3 wherein a first variable associated with said first node is live when a second variable associated with said second node is defined or used.

11. (Currently amended) A method comprising:

building a register interference graph comprising defining an interference edge between a first node and a second node;

wherein upon a determination ~~determining~~ that a first variable associated with said first node is live when a second

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variable associate with said second node is defined or used, said first node is a primary node; ~~and~~

defining an end of said interference edge adjacent said first node as a pass edge;

defining a pass degree of said first node as a number of pass edges of said first node; and

using said pass degree when choosing to spill a node from said register interference graph.

12-13. (Canceled)

12

~~14~~. (Currently amended) A system comprising:

a processor; and

a memory having a method of allocating a set of variables to a set of physical registers using selective spilling stored therein, wherein upon execution of said method, said method comprises:

building a register interference graph comprising defining an interference edge between a first node and a second node;

wherein upon a determination ~~determining~~ that a first variable associated with said first node is live when a second variable associate with said second node is defined or used, said first node is a primary node; ~~and~~

defining an end of said interference edge adjacent said first node as a pass edge;

defining a pass degree of said first node as a number of pass edges of said first node; and

using said pass degree when choosing to spill a node from said register interference graph.

15-16. (Canceled)

13

~~17~~. (Currently amended) A computer program product having a method of allocating a set of variables to a set of

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physical registers using selective spilling stored therein, wherein upon execution of said method, said method comprises:

adding direction to interference edges of a register interference graph, wherein each interference edge extends between two nodes of said register interference graph, said adding direction comprising:

for each node of each interference edge, determining whether a variable associated with said node was live when an other variable associated with the other node of said two nodes was defined or used;

wherein upon a determination that said variable associated with said node was live when said other variable associated with said other node was defined or used, said first node is a primary node; and

defining an interference edge adjacent a primary node as a pass edge;

defining a pass degree of each node as the number of pass edges of said node; and

choosing a node of said register interference graph to spill based upon [[a]] said pass degree of said node.

14 13
~~18~~. (Original) The computer program product of Claim ~~17~~ wherein said method further comprises building said register interference graph.

15 13
~~19~~. (Original) The computer program product of Claim ~~17~~ wherein said register interference graph comprises:

a first node;

a second node; and

an interference edge between said first node and said second node, said first node being a primary node.

16 19
~~20~~. (Original) The computer program product of Claim ~~19~~ wherein said second node is a secondary node.

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17 16
~~21~~. (Original) The computer program product of Claim ~~20~~ wherein said interference edge consists of a uni-directional interference edge.

18 16
~~22~~. (Original) The computer program product of Claim ~~20~~ wherein an end of said interference edge adjacent said first node comprises a pass edge and wherein an end of said interference edge adjacent said second node comprises a non-pass edge.

19 15
~~23~~. (Original) The computer program product of Claim ~~19~~ wherein said second node is a primary node.

20 19
~~24~~. (Original) The computer program product of Claim ~~23~~ wherein said interference edge consists of a bi-directional interference edge.

21
~~25~~. (Previously presented) The computer program product of Claim ~~23~~ 19 wherein an end of said interference edge adjacent said first node comprises a pass edge and wherein an end of said interference edge adjacent said second node comprises a pass edge.

22
~~26~~. (Previously presented) The computer program product of Claim ~~19~~ 15 wherein a first variable associated with said first node is live when a second variable associated with said second node is defined or used.

23
~~27~~. (Currently amended) A computer system comprising:

means for adding direction to interference edges of a register interference graph, wherein each interference edge extends between two nodes of said register interference graph, said means for adding direction comprising:

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for each node of each interference edge, a means for determining whether a variable associated with said node was live when an other variable associated with the other node of said two nodes was defined or used;

wherein upon a determination that said variable associated with said node was live when said other variable associated with said other node was defined or used, said first node is a primary node; and

a means for defining an interference edge adjacent a primary node as a pass edge;

a means for defining a pass degree of each node as the number of pass edges of said node; and

means for choosing a node of said register interference graph to spill based upon [[a]] said pass degree of said node.

24 23
~~28~~. (Original) The computer system of Claim ~~27~~ further comprising means for building said register interference graph.

25 23
~~29~~. (Original) The computer system of Claim ~~27~~ further comprising means for spilling said node.

30. (Canceled)

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